



City and County of the City of Chester.

ANNUAL REPORT

TO THE MAYOR, ALDERMEN AND
COUNCILLORS OF THE CITY AND
COUNTY OF THE CITY OF CHESTER

ON THE

HEALTH OF THE CITY

IN 1929,

BY

D. RENNET, M.B.E., M.D., D.P.H.,

Medical Officer of Health.

Public Health Committee (1928-29).

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† Certificate of the Royal Sanitary Institute for Meat and Food Inspectors.

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INDEX.

A

	A	PAGE
Admissions to Hospital	42	
Adoptive Acts, Bye-Laws, etc.	19	
Ambulance Facilities	12	
Analysis of Food	36, 37, 40, 41, 42	
Analyst's Report	40, 41, 42	
Area	5	
Area, Sanitary Circumstances of	19	
Area, Sanitary Inspection of	21	

B

Bacteriological Examination of Milk	...	...	...	...	...	...	30
Bacteriological Examination of Water	...	...	...	...	...	...	19, 20
Births	...	...	...	...	...	...	15
Birth Rate	...	...	...	...	...	...	6
Blind Persons Act, 1920	...	...	...	...	...	...	16

C

[illegible]

D

Dairies, Cowsheds and Milkshops Order	...	...	...	...	...	31
Deaths	...	...	...	...	6, 7,	44
Deaths according to Age	...	...	...	...	...	44
Death Rate	...	...	...	...	6, 7	...
Deaths, causes of	...	...	...	...	...	44
Diphtheria	...	...	...	...	...	8

E

Encephalitis Lethargica	...	...	...	...	...	...	9
Enteric Fever	...	...	...	...	...	...	9

F

Factories and Workshops Acts	...	...	...	...	...	...	47
Food Inspection	...	...	...	...	...	...	29
Fried Fish Shops	...	...	...	...	...	...	23

G

General Statistics	5
--------------------	-----	-----	-----	-----	-----	-----	-----	---

H

Health Services, Provision of ...	...	...	...	...	...	11
Health Visitors' Report	...	...	...	...	...	13, 14
Homeworkers ...	...	...	...	...	...	23
Housing ...	...	...	...	...	...	26, 27, 28, 29

1

Infant Death-rate	...	...	...	...	...	...	7
Infant Mortality	...	...	...	...	...	...	7, 45
Infectious Diseases	...	...	...	...	...	...	7, 10, 38
Inspection of Foodstuffs	...	...	...	...	...	...	29
Isolation Hospital	...	...	...	...	...	...	42, 43

L

Laboratory Work	18, 20, 30
-----------------	-----	-----	-----	-----	-----	------------

M

Margarine and Margarine Cheese, Dealers in	...	...	...	...	23
Maternity	...	...	...	...	17, 18
Maternity Hospital	...	...	...	...	11
Maternity and Child Welfare Centre	...	...	...	...	12, 13
Maternity Homes, Registration of	...	...	...	...	17, 18
Mental Deficiency Act	...	...	...	...	16
Measles	...	...	...	...	9

INDEX—continued.

PAGE.

Meat Regulations	...	...	...	...	..	...	...	33
Midwives, Cases	...	...	...	...	..	...	...	14
Midwives, Supervision of		...	...	...	...	...	... 14,	17
Milk (Designations) Order		...	...	...	...	...	...	31
Milk Supply ...	...	...	...	...	...	...	29, 30,	31
Milk (Mothers and Children) Order, 1918	...		...	...	...	...	...	15

N

Notifiable Diseases	7, 38
---------------------	-----	-----	-----	-----	----	-----	-----	-------

O

Ophthalmia Neonatorum	...	...	...	...	...	...	10
Orthopaedic After-Care Clinic	...	...	...	...	...	...	12, 16
Overcrowding	...	...	...	...	...	...	26, 27

P

Pavilion, Sealand	11
Population	...	...	...	...	...	...	...	5
Professional Nursing in the Home			...	...	...	...	...	17
Public Abattoir	...	...	...	...	...	...	...	32, 33
Public Analyst's Report	...	...	...	...	...	...	...	40, 41, 42
Public Health Committee (1928-29)			...	...	...	...	...	2
Puerperal Fever	...	...	...	...	...	...	...	9
Puerperal Pyrexia	...	...	...	...	...	...	...	9
Public Health (Prevention of Tuberculosis) Regulations, 1925	...	...	...	...	...	...	...	39
Public Health Act, 1925, Section 62			...	...	...	...	...	40
Public Conveniences	...	...	...	...	...	...	...	24

R

Rag Flock Act ...	...	...	...	...	...	...	23
Rats and Mice Destruction Act ...	...	...	...	...	...	...	21
Rat Week ...	...	...	...	...	...	...	22
Registration of Dealers in Margarine	...	...	...	...	...	...	23

S

Sale of Food and Drugs Acts	36,	37
Sanitary Circumstances of Area	...	...	...	...	...	...	...	19
Sanitary Condition of Schools	...	...	...	...	...	...	...	23
Sanitary Inspection of Area	...	...	...	...	...	...	...	21
Scarlet Fever	...	...	...	...	...	...	...	8
Scavenging	...	...	...	...	...	...	...	20
School Clinic	...	...	...	...	...	...	...	15
Shropshire Orthopædic Hospital	...	...	...	...	...	...	...	16
Slaughter-houses	...	...	...	...	...	...	32,	33
Smallpox	...	...	...	...	...	...	...	11
Smallpox Hospital	...	...	...	...	...	...	...	11
Smoke Abatement	...	...	...	...	...	...	...	22
Staff of Health Department	...	...	...	...	...	...	...	18
St. James' Hospital	...	...	...	...	...	...	...	12
Still-Births	...	...	...	...	...	...	...	6
Supervision of Midwives	...	...	...	...	...	...	14,	17
Supply of Dentures	...	...	...	...	...	...	...	15
Supply of Milk	...	...	...	...	...	...	...	29

T

Tuberculosis	10, 11, 39
Tuberculosis, Arrangements for Treatment	...	...	...	...	...	...	11
Tuberculosis Dispensary	...	...	...	...	...	...	12, 15
Tuberculosis (Animals) Order, 1925	...	...	...	...	...	...	35

U

Unsound Food ...	...	...	...	...	...	...	29, 32, 33, 34
Ultra-Violet Ray Clinic	12

V

Venerae Diseases Clinic	15
Vital Statistics	5, 46

w

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ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

For the Year 1929.

1.—GENERAL STATISTICS.

Area (acres)	...	...	...	...	2862
Population (estimated) 1929	...	...	...	...	40920
Population (census, 1921)	...	...	...	...	40794
Number of inhabited houses (1921)	...	...	...	...	8447
Number of Inhabited houses (1929)	...	...	...	...	9092
Number of families or separate occupiers (1921)	...	...	...	...	8890
Rateable value (1929)	...	...	...	...	£310,990
Sum represented by a penny rate	...	...	...	...	£1221

The Registrar General's estimate of our population in the middle of 1929 is 40,750, 80 less than in 1928 and 1280 less than in 1927. However much one is inclined to doubt those figures, they must be accepted as there is no really reliable method of estimating our population locally. Making allowance for Cestrians in St. James' and in the Mental Hospital and for non-Cestrians in the Chester Royal Infirmary, the corrected population on the Registrar's basis is 40,920, on which the birth rate and various death rates will be calculated.

VITAL STATISTICS.

			Total		Male		Femal-		
Births	{	Legitimate	...	665	...	333	...	332	} Birth-rate 17.25
		Illegitimate	...	42	...	19	...	23	
Deaths	626					crude death-rate 15.3
									corrected 14.5
Deaths of women dying in or in		{	from sepsis		1		
consequence of child-birth			from other causes		3		
Deaths of infants under 1 year per 1,000 births		...	...	77.7			
Legitimate, 78.19; Illegitimate, 71.4.									
Deaths from Measles (all ages)		...	...	...	...	0.00
„	„	Whooping Cough (all ages)		...	...	0.31	
„	„	Scarlet Fever (all ages)		...	...	0.02	
„	„	Diarrhoea (under 2 years)		...	...	0.04	
„	„	Tuberculosis (all forms)		...	...	1.09	
„	„	Cancer		...	...	1.80	

The Birth Rate.—The number of births credited to Chester, that is after allowing for inward and outward transfers, was 707, slightly more than in the previous year. The birth rate is raised from 16.9 to 17.25, this being the highest since 1926. Included in the above are 42 illegitimate births an increase of 15 over last year. Those are 5.9 per cent. of the total births.

Still Births.—There were 32 still births registered during the year including 3 illegitimate births. In eleven cases it was the first infant that was lost and in 16 there had been from one to nine previous births. In five cases there had been previous still births or miscarriages. Ill-health of the mother appeared to be the cause or a contributory cause in 7 cases, while malpresentation, difficult labour, or instrumental delivery was the cause in 4 cases.

The birth rates for England and Wales and for Chester are given in the following table for the last five years :—

BIRTH-RATES.

		England and Wales		Smaller Towns		Chester
1925	...	18.3	...	18.3	...	20.3
1926	...	17.8	...	17.6	...	19.9
1927	...	16.7	...	16.4	...	16.5
1928	...	16.7	...	16.6	...	16.9
1929	...	16.3	...	16.0	...	17.2

STILL BIRTHS.

1929	...	0.68	...	0.71	...	0.78
------	-----	------	-----	------	-----	------

The Death-rate.—The deaths of Chester residents in 1929, allowing for inward and outward transfers, numbered 626 which is 159 more than in 1928. This large increase with our reduced population brings the death-rate per 1000 living to 15.29 which when corrected for age and sex distribution becomes 14.5. This is the highest death-rate we have had since 1926.

With our small population considerable variation is to be expected but it is none the less disappointing, particularly as the increase is mostly amongst children of school age. Accurate comparison with former years, in age groups, is not possible as the grouping has been altered, but the percentage of deaths to total deaths is increased most in the ages 2 years and under 15, being 1.15 per cent. more than in 1928, while in the age group 15 years and under 45 it is 1.7 per cent. less than in 1928.

Although 1929 will be remembered as a particularly dry and sunny year, yet that is not a true picture of the whole 12 months. There was a particularly harsh spell of weather in the first quarter which increased the deaths from respiratory diseases at all ages. While Chester also suffered from an epidemic of whooping cough in the early part of the year and to a less extent from diphtheria in the Autumn. The increase in deaths of infants is due to whooping cough and congenital defects, and in the case of older children to diphtheria, and to tuberculosis. Some of the most marked increases in deaths have been due to the following, the figures indicating increase over last year :— Influenza (13), Cancer (15), Organic Heart Disease (41), Pneumonia (22), Congenital Defects (11), Whooping Cough (12).

DEATH-RATES.

For the past 5 years :—

		England and Wales		Smaller Towns		Chester
1925	...	12.2	...	11.2	...	12.87 (corrected)
1926	...	11.6	...	10.6	...	12.37 („)
1927	...	12.3	...	11.3	...	11.86 („)
1928	...	11.7	...	10.6	...	10.8 („)
1929	...	13.4	...	12.3	...	14.5 („)

Chester in common with the rest of the country has a higher death rate than in the last five years.

Infant Death-rate.—The infant death-rate per 1000 births is 77.7 compared with 58.9 in 1928 when it was the lowest so far recorded in Chester. Large although the increase is the rate has been exceeded twice in the last five years. The rate is also increased in the country as a whole. There were 14 more deaths of infants during the year than in 1928, increases being due to Whooping Cough (8), Congenital Defects (12).

Infant death-rates for past five years :—

		England and Wales		Smaller Towns		Chester
1925	...	75	...	74	...	72
1926	...	70	...	67	...	80
1927	...	69	...	68	...	70
1928	...	65	...	60	...	59
1929	...	74	...	69	...	78

Notifiable Infectious Diseases.—Infectious disease was much more prevalent than usual. There was a severe epidemic of whooping

cough in the second quarter of the year which materially increased the deaths of infants and later in the year scarlet fever was prevalent, but fortunately not fatal, but in the Autumn a number of cases of diphtheria of a very virulent type caused some deaths in the early school age. There were 1312 cases of infectious disease notified during the year compared with 879 in 1928. Scarlet Fever accounted for 433 of these and Chicken-pox for 235. Diphtheria although much more fatal was notified only on 46 occasions, the same number as in 1928.

Scarlet Fever.—It is many years since scarlet fever was epidemic in Chester, the numbers notified in any one year being generally well under a hundred. Immediately after the Summer holiday mild cases were met with in the schools and in the school clinic. Examination in the schools showed that it was wide spread and probably had been spreading during the holidays. The type of illness was very mild; in some cases presenting the typical tongue, adenitis and red pharynx and giving a negative Dick reaction the parents denied the occurrence of any illness whatever. Desquamation could generally be found if carefully looked for about the lobes of the ears and base of neck and was of the typical pin point type. In a few cases the diagnosis had to remain in doubt in the absence of any definite diagnostic sign whatever but giving a negative Dick. One case having had no signs of scarlet fever and giving a repeated well marked positive Dick test, was in a scarlet ward on barrier nursing for 3 weeks, gave rise to a return case of well marked scarlet fever on being discharged on the assumption that she had not had the disease.

Towards the end of the epidemic the cases became well marked but at no time severe.

Diphtheria.—This disease continues to be of relatively low prevalence, but in contrast to the mild nature of the attack, which had been noted for the past two or three years, it has assumed a very virulent type, being occasionally hæmorrhagic and frequently associated with a well-marked streptococcal infection with the typical bull neck, puffy face, and whitish, hard membrane. Although the number of cases notified during the year was only 46, the same as in 1928, the deaths numbered 7 compared with 1. Some form of paresis was the rule during convalescence. The association with a streptococcal infection is particularly unfortunate as in many cases they were taken to be septic throats and no serum given, the result being that some of the cases reached hospital only a few hours before death.

Measles was notified on 105 occasions. The disease was epidemic in the Spring of 1928 and it was again due to be epidemic early in 1930. This unfortunately has coincided with cold, wet weather and the mortality from broncho-pneumonia has been heavy. During 1929 there were few complications and no deaths.

Whooping Cough.—This disease was prevalent during the first and second quarters of the year, and 321 cases were notified, with 10 deaths. Twenty-two cases were admitted to hospital, all complicated cases from very poor homes. Three of those cases died.

Puerperal Pyrexia was notified ten times. Many of the cases showed a rise of temperature for two or three days without other alarming symptom and all recovered. In two cases illness with raised temperature was present before confinement, one a case of pyelitis, and the other of influenza. In one, the cause seemed to arise from injury during difficult labour and craniotomy, in another, instrumental delivery and manual extraction of after-birth, and in two, normal delivery with some perineal tearing was followed by a rise in temperature sufficient to lead to notification.

Puerperal Fever was also notified on ten occasions. There was one death. In three cases no suggestion of the cause of the fever could be found. In two full term cases morbid conditions were recognised before delivery purulent discharge, and old salpingitis. Three cases were of miscarriage or abortion, in two of which other abnormalities were present and in the third there had been no manual examination or interference before rise of temperature. The fatal case was admitted to the Royal Infirmary after the onset of fever, the conditions arising from retained products.

The Typhoid and Para Typhoid Group.—One case of paratyphoid fever was notified. No source of infection could be traced, and the case was of a very mild nature.

Encephalitis Lethargica was notified twice, both cases being really post encephalitis, the acute attack having been indefinite and having occurred a considerable time before.

Chicken-pox continues to give a number of cases, 235 cases having been met with. Practically all of those cases are seen by the Assistant Medical Officer or myself, in an endeavour to avoid missing a case of small-pox.

The following table gives comparative figures for some of the infectious diseases in 1929.

	Death Rates per 1000 population.						Rate per 1000 Births.	
	Enteric Fever.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.	Influenza.	Diarrhoea under 2 years.	Total deaths under 1 year.
England & Wales	0·01	0·08	0·02	0·15	0·08	0·74	8·1	74
County Boroughs	0·01	0·12	0·02	0·19	0·09	0·76	10·9	79
Smaller Towns ...	0·01	0·06	0·02	0·15	0·07	0·71	5·9	69
Chester	0·00	0·00	0·02	0·31	0·14	0·39	2·8	78

Ophthalmia neonatorum was notified eleven times. In six of these cases a microscopical examination was made but the specific organism was not found. A good many of the cases give a history of commencing discharge about the 7th or 10th day and are thus not likely to be true ophthalmia neonatorum.

The particulars are :—

Notified.	Cases Treated.		Vision Unimpaired.	Vision Impaired.
	At Home.	In Hospital.		
11	6	5	11	0

Tuberculosis.—The notifications of tuberculosis numbered 82 during the year, 25 more than in 1928, and 17 more than in 1927. Of the 82 notifications 62 were of pulmonary disease and 36 of those being in males. There were 20 non-pulmonary cases of tuberculosis notified, 15 of them being males. The notification rate is for pulmonary tuberculosis 1·51 per 1000 of population, and for non-pulmonary 0·48. The death-rate is 0·87 for pulmonary tubercle and 0·21 for non-pulmonary.

The morbidity rate is higher than it has been for the past five years for both types of disease. The mortality rate has only once been higher during that time in the case of pulmonary disease, while in non-pulmonary it has been lower each year since 1924.

In my last report I stated that the long continued trade depression was likely to slow down the steady fall in incidence and mortality which

had been taking place for many years. It seems that the prediction is being fulfilled already. The position in relation to England and Wales is as follows :—

	NOTIFICATIONS.				DEATHS.			
	Pulmonary.		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
	E. & W.	Chester.	E. & W.	Chester.	E. & W.	Chester.	E. & W.	Chester.
1925	1'51	1'07	0'50	0'33	0'83	0'93	0'20	0'14
1926	1'45	1'36	0'48	0'38	0'77	0'88	0'19	0'14
1927	1'38	1'23	0'45	0'31	0'79	1'02	0'18	0'04
1928	...	1'19	...	0'19	...	0'85	...	0'09
1929	...	1'51	...	0'48	...	0'87	...	0'21

THE PROVISION OF HEALTH SERVICES FOR THE CITY.

A.—The Hospitals provided by the Local Authority are (1) Fever (2) Small-pox.

(1) The Fever Hospital at Sealand has 64 beds for infectious diseases. Although chiefly used for the isolation and treatment of scarlet fever and diphtheria, cases of typhoid fever, encephalitis and puerperal fever, are also treated there and in recent years considerable use has been made of the hospital for the treatment of complicated cases of measles and whooping cough.

(2) The Small-pox Hospital, about half-a-mile distant from the Isolation Hospital, has not been used during the year.

B.—The Local Authority has 8 beds (4 male, 4 female) in the Cheshire Joint Sanatorium for the treatment of pulmonary tuberculosis, and in addition has 18 beds (10 male and 8 female) at the Pavilion, Sealand.

Non-pulmonary tuberculosis is provided for by Shropshire Orthopædic Hospital, and by 8 beds for children at Sealand. We have no formal agreement with the Shropshire Hospital but can send what cases we have.

The Maternity Hospital is under the management of the Chester Benevolent Institution. It is an institution of 8 beds, two of which are subsidised by the Local Authority. During the year 193 patients passed through the hospital, 103 of which belonged to the City, and 15 occupied Corporation beds.

Children's Hospital.—There is no children's hospital in Chester, but the Royal Infirmary have a well-equipped, commodious ward for children.

Other Hospitals.—(1) The Chester Royal Infirmary has 211 beds available for use. The average number of occupied beds during the year was 190.86, and the number of in-patients treated was 3,941. City patients numbered 1,052 and those from outside 2,889.

(2) St. James' Hospital.—This is part of the Chester Poor Law Institution and contains 246 hospital beds. Particulars of the accommodation, staff and work done, were given in last year's report. It is hoped that the Chester Local Authority will be able to take over the institution and in conjunction with other medical organisations establish a really comprehensive medical service for the district.

No special provision is made for the unmarried mother. They are eligible, however, for the subsidised beds in the Maternity Hospital and also in St. James'. Neither is there any provision made for the illegitimate child.

Ambulance Facilities.—Two Motor Ambulances are kept at the Isolation Hospital for use in infectious diseases and two at the Fire Station for civil non-infectious cases. All ambulances are available day or night.

CLINICS AND TREATMENT CENTRES.

	Accommodation	Provided by
1. Maternity and Child Welfare, Princess Street: Consultation	Waiting Hall, Weighing Room, Consulting Room	Local Authority.
2. School Clinics, Princess Street: Consultation and Treatment	Waiting Hall, Consulting Room	Education Authority.
3. Tuberculosis Dispensary, St. John Street	Waiting Room, Consulting Room	Local Authority.
4. Treatment Centre Venereal Diseases, Royal Infirmary: Consultation and Treatment	Consulting Room, Treatment Room	Joint, Chester and Flint and Denbigh Counties.
5. Orthopædic After-Care Clinic, St. John Street	Waiting Room, Treatment and Consulting Room	Cheshire Orthopædic After-Care Committee (premises by Chester Local Authority).
6. Ultra-Violet Ray Clinic, Princess Street	Treatment Room, Waiting Room, Dressing Room	Local Authority.

* The local Education Authority pay to the Infirmary £125 per annum for the surgical treatment of enlarged tonsils and adenoids and for refractions and minor operations amongst school children.

The Maternity and Child Welfare Clinic meets twice a week, Mondays and Thursdays. Short talks are given to the Mothers on health matters in general and the bringing-up of children.

The number of attendances and weighings at the Clinic during the year are given in the following table:—

		Number		Attendances
Mothers	...	289	...	1748
Expectant Mothers	...	38	...	134
Babies	...	160	...	1017
Children (1—5 years)	...	191	...	931
Weighings.				
Babies	...	...	716	
Children	...	...	806	

The following work has been done by the Medical Officer of the Clinic:—

First visits of infants	...	...	...	128
Subsequent visits	...	...	...	252
Children (1—5) first visits	...	...	...	71
Subsequent visits	...	...	...	92
Expectant Mothers	...	...	...	29
Subsequent visits	...	...	...	66

A large proportion of the midwifery of the district is done by the staff of the Maternity Hospital and many of the expectant mothers attend an ante-natal clinic held there as part of the training of the pupil midwives.

It has been arranged to hold an ante-natal clinic once a week in connection with, but separate from, the Child Welfare Clinic. The Medical Officer in charge being the same as for the Children's Clinic.

On or about the tenth day the Health Visitor visits each infant unless expressly told a visit is not required. They are given a chart showing the condition during the puerperium and thus get a knowledge of the case from the beginning.

HEALTH VISITORS' REPORT.

Total number of births notified	...	...	851
(Of these 17 were notified late; 12 by doctors and 5 by midwives)			
Cases attended and delivered by doctors	...	...	94
Cases attended and delivered by Midwives	...	...	757
Number of Still-births	...	...	31
(Midwives' cases 25, doctors' 6)			

The Health Visitors made the following visits:—

Primary birth visits	...	...	...	619
Return visits	...	...	...	1757
Visits to children (1—5 years)	...	...	...	3236
Visits to expectant mothers	...	...	...	199
Other visits	...	...	...	2362
Visits to Midwives	...	...	...	41

Of the 757 births attended by midwives in 83 cases some condition arose requiring the calling in of medical help either for the mother or infant. This is considerably fewer than last year, when the number was 135.

The reasons for requiring help were as follows:—

Feebleness of child	...	...	...	5
Prolonged labour or malpresentation	...	...	...	18
Complications before labour	...	...	...	6
Complications during labour	...	...	...	—
Complications after labour	...	...	...	5
Rise of temperature	...	...	...	7
Discharge from the eyes	...	...	...	10
Deformity of infant	...	...	...	2
Lacerated perinæum	...	...	...	18
Abortion	...	...	...	1
Skin Affections	...	...	...	2
Prematurity	...	...	...	5
Patient's own request	...	...	...	4

There were 31 still births registered in Chester during the year, particulars have been given earlier in the report.

THE MIDWIVES ACT.

Under the provisions of the Midwives Act, the Local Authority paid the whole or part of the doctor's fee when called in by a midwife in 63 cases, an increase of 18 over last year.

Once a year all midwives practising in the City are interviewed by the Medical Officer, their bags, registers and note books examined and some of their cases discussed. They are also seen at other times as occasion arises. The senior Health Visitor makes routine quarterly visits to their homes.

Artificial Feeding.—The notification of the adoption of artificial feeding is very badly carried out, there having been only 13 such notifications received during the year.

MILK (MOTHERS AND CHILDREN) ORDER, 1918.

Milk has been supplied free to 1,766 applicants during the year, 577 more than in 1928.

NOTIFICATION OF BIRTHS ACT.

The necessity to notify a birth is becoming much better known and the number not notified until the omission was pointed out has fallen to 17 in the year.

Dental Clinic.—Nursing and expectant necessitous mothers are supplied with dentures through the dental clinic, either free or on part payment. This arrangement has been taken advantage of in four cases during the year.

The School Clinic is an important part of Public Health work and here an endeavour is made to make parents realise and assume their responsibilities in the treatment of minor ailments. About a third of the work done here should be undertaken by the parents.

TUBERCULOSIS DISPENSARY.

There are three meetings a week including morning and evening meetings. At the end of the year 187 persons were on the register and made 278 attendances.

Twenty-two contacts of known cases were examined. For dispensary purposes in diagnosis and treatment, 46 specimens of spit were examined, and in the continuation of treatment 7 patients were sent regularly to Cheshire Joint Sanatorium for artificial pneumo-thorax.

The visitors made 499 visits to dispensary patients and 88 under the Tuberculosis Regulations.

VENEREAL DISEASES CLINIC.

This is a joint clinic run by the City of Chester and the County of Flint, Denbigh having dropped out on the establishment of a Clinic of their own. Cheshire County, although not a signatory to the agreement sends cases to the Clinic and pays its proportion of the cost.

The number of Chester patients treated for the first time during the year is given in the following table with the number for the previous four years:—

			1925	1926	1927	1928	1929
Syphilis	...	...	21	31	20	22	12
Soft Chancre	...	...	—	—	—	—	—
Gonorrhoea	...	...	43	45	35	24	38
Conditions other than							
Venereal			11	12	7	3	1

The number of primary infections of syphilis appear to be falling and cases of gonorrhoea seeking treatment oftener than before.

THE ORTHOPÆDIC AFTER-CARE CLINIC.

This clinic under the care of the Cheshire Orthopædic After-care Committee is entirely managed by a local Committee. The treatment is done by the Shropshire Orthopædic Hospital which supplies Specialist Surgeons and Nurses to attend the Clinic. The after-care is done under the above supervision by nurses of the Red Cross Society and the Order of St. John of Jerusalem. One hundred and five cripples were treated during the year. The most common cause of the defect is tubercule and the next rickets. Patients made 1,157 attendances at the Clinic and there were 81 patients on the books at the end of the year.

BLIND PERSONS ACT (1920).

The Local Authority has delegated its responsibilities under this Act to the Chester and North Wales Society for the Home Teaching of the Blind. The Local Authority have two representatives on the Committee of Management.

There were 64 persons on the register at the end of the year and the Local Authority pay to the Society £3 per blind person per annum. Certificates for wireless licences were given on two occasions.

MENTAL DEFICIENCY ACT.

The provision for mental defectives remains extremely unsatisfactory. The Joint Board of Cheshire and Associated County Boroughs have purchased the estate of Cranage Hall with a view to building a colony there in the first instance for 500 patients, with a possible extension for 1,000. In the meantime it is impossible to get lower grade cases placed in Institutions.

PUBLIC HEALTH OFFICERS OF THE LOCAL AUTHORITY.

WHOLE-TIME. MALE STAFF.

1. Medical Officer of Health, School Medical Officer, Tuberculosis Officer and Medical Superintendent Infectious Diseases Hospital.
2. Assistant Medical Officer and Assistant School Medical Officer, etc.
3. §† Chief Sanitary Inspector, F.S.I.A., C.R.S.I., Tech. Silver Medallist.
4. Chief Clerk.
5. *§ Assistant Sanitary Inspector, M.A.S.I., C.R.S.I.
6. District Sanitary Inspector, C.R.S.I.
7. Assistant District Inspector, M.S.I.A.
8. § Assistant Clerk and Additional Inspector, M.S.I.A., C.R.S.I.
9. Assistant Clerk and Laboratory Attendant.
10. Labourer.
11. Rat Catcher.

FEMALE STAFF.

Health Visitor and School Nurse, C.M., C.R.S.I.

Health Visitor and School Nurse, C.M., C.R.S.I., General Trained.

Health Visitor and School Nurse, C.M., General Trained.

Health Visitor and School Nurse, C.M., S.R.N. Health Visitor Certificate.

PART-TIME STAFF.

Two Clinical Officers, V.D. Clinic, on the Staff of the Royal Infirmary.

Physician: at Maternity and Child Welfare Centre.

Veterinary Surgeon: under Tuberculosis (Animals) Order, 1925.

* Chiefly employed in Meat Inspection and Housing.

† Certificate of the Royal Sanitary Institute for Meat and Food Inspectors.

§ Certificate Liverpool University for Meat and Food Inspectors.

PROFESSIONAL NURSING IN THE HOME.

(a) General Nursing.—There is no outside nursing done by the Infirmary Authorities. Most of the nursing for general purposes is done by the Chester District Nursing Association. The nurses employed by this Institution attend roughly a third of the maternity cases in their homes.

(b) As regards infectious diseases, the great majority of these cases are treated in hospital. In the case of measles and whooping cough, the Local Authority have entered into an agreement with the Chester Benevolent Institution by which, for the payment of £50 a year, they help in the home-treatment of minor ailments, and, at times of epidemic, attend in their homes cases of measles and whooping cough sent to them by the Local Authority. Provision is now made for treatment of severe or complicated cases of these diseases in hospital.

Midwives.—There are 21 midwives in practice in the City: all are certified and none are subsidised by the Local Authority. Four of the midwives practice under the Benevolent Institution and Maternity Home, two doing outside work. The homes are visited quarterly, and ante-natal records, etc., inspected by the senior Health Visitor; and the midwives, with their registers and bags, are examined once a year by the Medical Officer of Health, and on special occasions as necessary.

REGISTRATION OF MATERNITY HOMES.

1.	Number of Applications	...	...	...	...	1
2.	Number of homes registered	...	...	...	...	5
3.	Number of Orders made refusing or cancelling registration					0
4.	Appeals against such orders	...	...	...	...	0
5.	Number of cases in which such orders have been—					
	(a) confirmed on appeal	...	...	...	...	0
	(b) disallowed	...	...	...	...	0
6.	Number of applications for exemption from registration	...				1

7 Number of cases of exemption—

(a) granted	...	...	...	...	1
(b) withdrawn	...	...	...	...	0
(c) refused	...	...	...	...	0

CHEMICAL AND BACTERIOLOGICAL WORK.

The work of the Municipal Laboratory includes the examination of material from cases of suspected infectious and other diseases sent in by private practitioners and also material as aid to diagnosis and treatment from patients in the Isolation Hospital or attending the tuberculosis or school clinics. In addition, the City water supply is examined chemically each month and bacteriologically every fortnight when the product of each filter bed and the finished product is separately examined. In recent years the bacteriological examination of samples of milk has also been done as a routine matter with very considerable benefit to the milk supply of the City.

LABORATORY WORK, 1929.

Material.	Examined for	Positive.	Negative.	TOTAL.
Swabs, Throat and Nose	Diphtheria bac.	48	648	696
Sputum	Tubercle bac.	76	138	214
Urine	B Typhosus ... ..	...	2	2
"	Para Typhosus B ... ..	...	2	2
Cerebro Spinal Fluid	Mennigococcus ... ..	...	1	1
Urine	Tubercle bacilli ... ..	...	2	2
Fæces ... ..	" ... ..	...	1	1
Pus ... ..	" ... ..	...	2	2
Pleural Fluid ... ..	" ... ..	...	1	1
Renal Gland of Calf	" ... ..	...	1	1
Inguinal Gland of Pig ... ..	" ... ..	...	1	1
Spleen of Ox	Anthrax bacilli ... ..	...	1	1
Smears	Gonococci	3	5	8
Ophthalmic Smears	" ... ..	...	6	6
Urine	Coliform bacilli in puerperal cases	1	1	2
Swabs, Throat and Nose	Streptococci in puerperal cases ... ..	...	6	6
Urine	Casts	1	0	1
Urine	Albumin, sugar, etc. ... ..	...	5	5
	Totals	129	823	952

Routine Chemical Examinations of City Water Supply	...	10
Routine Bacteriological Examinations of City Water Supply	...	224
Bacteriological Examinations of Milk	...	128
Total Examinations	...	1314

LIST OF ADOPTIVE ACTS, BYE-LAWS AND LOCAL REGULATIONS IN FORCE IN THE DISTRICT.

- Chester Improvement Acts, 1845, 1884.
 Baths and Washhouses Act, 1846—1899.
 Baths Bye-Laws (1907).
 Public Improvements Acts, 1860.
 Houses and Parts of Houses Let in Lodgings Regulation, 1867.
 Bye-Laws as to Obstructions, Encroachments and Nuisances, 1879.
 Bye-Laws under the Dairies, Cowsheds and Milkshops Order, 1885,
 1904.
 Bye-Laws in respect of Nuisances, 1887.
 Public Health Acts Amendment Act, 1890.
 Infectious Diseases (Prevention) Act, 1890.
 Private Street Works Act, 1892.
 Isolation Hospital Rules (1901).
 Public Health Acts Amendment Act, 1907—Parts II., III., IV., V.,
 VI. and X.
 Bye-Laws for the Regulation of Common Lodging houses, 1909.
 Bye-Laws for the Regulation of Slaughterhouses, 1909 and 1922.
 Public Health (Prevention and Treatment of Diseases) Act, 1913.
 Rats and Mice (Destruction) Act, 1919.
 Public Health (Tuberculosis) Act, 1921.
 Bye-Laws for the Regulation of Slaughter-houses provided by the
 Council, 1925.
 Tuberculosis Order, 1925 (C.D.A.A.).
 City of Chester (Measles and Whooping Cough) Regulations, 1925—
 S.R.O., 1925, No. 1130.
 Public Health Act, 1925, except sections 17, 18, 19, 20, 34 and 56.
 City of Chester (Public Health, etc.,) Order, 1926 (adopting Public
 Health Acts Amendment Act, 1907, and repealing certain sections
 in Acts of 1845 and 1884.
 Nursing Home Bye-Laws (1928).
 Chester Corporation Act, 1929.

SANITARY CIRCUMSTANCES OF THE AREA.

Water Supply.—The greatly improved performance of the Chester Water Company is again seen in the results of the examination of the water supply for 1929. The process of purification remains the same, i.e., rapid filters which remove a larger amount of the suspended matter and prolong the life of the sand filters, (2) sand filters which remove the rest of the suspended matter and most of the bacterial content, and (3) chlorination which kills most of the remaining bacteria, the resulting water being of a high standard of purity. With extra storage, the work of the Water Company would be still further

improved and I understand this is to be provided. As it is, the water supplied to the Town is of excellent quality and has been free from bacillus coli in 100 c.c. in 95 per cent. of the samples examined. This germ being found on only one occasion out of twenty-three.

Taking the filters alone, their product showed the presence of bacillus coli in 100 c.c. in 13 per cent. of the samples, but this, after chlorination showed its presence only in 5 per cent. in the same quantity.

The percentage of satisfactory and unsatisfactory samples for the last five years are shown below :—

	1925		1926		1927		1928		1929	
	x	—	x	—	x	—	x	—	x	—
10 c.c.	13·7	86·3	16·7	83·3	0·00	100	0·00	100	5·0	95
100 c.c.	36·4	63·6	70·9	29·1	25·0	75	4·00	96·0	5·0	95
	x = B. Coli. present.				— = B. Coli. absent.					

The water has been examined chemically each month and the results are appended :—

CHEMICAL ANALYSIS OF THE CITY WATER SUPPLY, 1929.

Date 1929.	SOURCE.	Chlorine.	Free Ammonia	Albuminoid Ammonia.	Oxygen absorbed in $\frac{1}{4}$ hour.	Oxygen absorbed in 4 hours.	Oxygen absorbed in 3 hours.
Jan. 21	Banners Court, Princess St. ...	2·3	·0013	·013	·0353	·1702	—
Feb. 27	Laboratory Tap, Health Dept.	2·4	·004	·0072	·088	·072	—
Mar. 14	Parry's Court, Princess St. ...	2·0	·0018	·007	·059	—	·122
April 11	Holloway's Court, Crook St. ...	2·1	·00106	·0064	·035	—	·1028
May 16	Jonas' Court, Princess St. ...	1·8	·00106	·0074	·0488	—	·132
June 20	Holloway's Court, Crook St. ...	2·3	·0024	·0104	·016	—	·088
July 16	Greenock Place, Crook St. ...	1·9	·0010	·0084	—	—	·0808
Aug. 21	Edwards' Court, Princess St....	2·6	·0008	·0086	—	—	·08857
Sept. 11	Trinity Court, Trinity Street ...	1·8	·0013	·0122	—	—	·160
Dec. 11	Edwards' Court, Princess St....	1·4	·004	·029	—	—	·252

Scavenging.—The system of refuse removal is the same as in the last few years, some of the open carts used have been replaced by an improved covered cart, and the container system has been extended. Street Cleaning has been improved by the provision of one or two hand carts. Something more might be done to keep the neighbourhood of the Market and Cathedral free from blown paper and rubbish. Some of this is due to loosely placed paper over a basket on a bicycle-carrier. Why not provide a lid to the basket?

The Sewage of the City is almost entirely water borne, the only pail closets or privies being in rural parts of the town or where houses are below the level of the sewer.

THE SANITARY INSPECTION OF THE AREA.

The following is a tabular statement of the work done in the sanitary department :—

Complaints in respect of nuisances	227
Visits in respect of nuisances	2953
Rooms disinfected after infectious disease	576
Investigations re infectious disease	484
Matters referred to City Surveyor	113
Tests applied to drains	287
Drains found defective	233
Drains repaired	173
Drains insufficient	45
Drains reconstructed	176
Ashpits abolished	26
Ashbins provided	205
Inspection of courts	138
Inspections of school premises	10
Inspections of stables, etc.	127
Inspections of canal boats	102
Inspections of factories and workshops	306
Dairies, cowsheds and milkshops	154
Inspections of slaughter-houses	1040
Inspections of butchers' shops	318
Inspections of fishmongers' shops	247
Inspections of other food shops	233
Inspections of offensive trade premises	6
Smoke observations	106
House to house (district inspections)	146
Visits to common lodging houses	9
Dwellings (inspections and re-inspections)	5106

The following notices were served :—

Intimation	671
Statutory	53

Of the statutory notices, 10 were served under the Housing Act, 1925.

RATS AND MICE (DESTRUCTION) ACT, 1919.

This branch of sanitary work now forms part of the routine activities of the Department. Throughout the year, there were fewer complaints received. During September, October and November, the number of rats infesting premises was more numerous than in the earlier part of the year and steps were taken to meet the circumstances. The usual attention has been given to the premises known to be infested

and satisfactory results obtained. The week commencing November 4th, was devoted to a special campaign against the pest within the City. The public were invited by advertisement in the press and were offered free use of traps and free poisoned bait, during the week. 44 applications were made for poisoned bait, and 5 for the loan of traps. In addition to the Sanitary Inspector and the Rat Catcher, 2 extra men were engaged laying bait in the sewers and ditches in and about the City. On re-visiting those places where bait had been laid, it was found to have been freely taken. 116 lbs. of poisoned bait, "Dalroc," were used. In three cases poisoned gas was also made use of and it was also used on the Corporation refuse tip.

This work is seriously handicapped in town by the lack of similar activities in the neighbourhood.

The following table sets out the work done by the Rat Catcher—

Month 1929.	No. of Visits.	Method.		Rats Caught
		Poison	Traps.	
January	130	32	106	137
February... ..	65	13	52	137
March	94	18	78	107
April	106	26	80	155
May	118	31	89	143
June	80	28	68	163
July	123	42	84	166
August	111	30	85	202
September	78	20	59	114
October	125	21	105	225 + 14 Mice
November	87	31	68	28 + 7 Mice
December	96	41	78	139
TOTAL.	1213	333	952	1716 + 21 Mice

SMOKE ABATEMENT.

One hundred and six observations were made of smoke emission during the year, but although more smoke was emitted in some cases than was warranted, it was not thought advisable to serve notices. Numerous complaints were received of nuisance from the smell of the exhaust of Diesel engines, and although a nuisance would have been difficult to prove, more smoke and smell were present than ought to be from such plant. After representations to firms in question, more up-to-date engines were put in with consequent lessening of both smell and smoke. In works where solid fuel is used there is room for considerable improvement and even where modern smoke consuming apparatus has been installed careless stoking still leads to considerable and unnecessary smoke.

PREMISES AND OCCUPATIONS WHICH CAN BE CONTROLLED BY BYE-LAWS.

WHOLESALE DEALERS IN MARGARINE AND MARGARINE CHEESE.

There has been no change in the number of registered premises on the register. The number of registered premises is 16. They were regularly inspected and are kept in a satisfactory condition.

FRIED FISH SHOPS.

The number of premises occupied and used for the cooking of fish and chipped potatoes, is 34. These premises are regularly inspected and the ranges and utensils are kept in a satisfactory condition.

RAG FLOCK ACT.

Two samples of rag flock were submitted for analysis and were certified to comply with the Regulations in respect of amount of chlorine present in them. The permitted limit is 30 parts of chlorine to 100,000 parts. The samples contained respectively 6 parts per million, and 16 parts per million.

COMMON LODGING HOUSES.

No change has taken place in the register of common lodging houses.

There were 4 registered common lodging houses and they contained the total of 27 keepers, providing accommodation for 145 men.

In one instance it has been necessary to deal with the registered keeper on account of uncleanness. A warning has been given and unless considerable improvement is made in the management of the premises, it may be necessary to cancel the registration.

SANITARY CONDITION OF SCHOOLS.

The sanitary condition of the schools is satisfactory. There has, however, been considerable delay in the modernisation of the closet accommodation at one school and I understand that pressure is now being put on the managers. In one other school the playground is unsatisfactory and will be dealt with along with alterations in the school in the near future.

HOMEWORKERS.

There was no cause for complaint in respect of the premises occupied by notified homeworkers.

The houses were regularly inspected and found satisfactory.

There were 32 returns under the Regulations received, giving particulars of 17 employed persons.

PUBLIC CONVENIENCES.

The public conveniences have been maintained in a satisfactory condition throughout the year, but the extra accommodation it is intended to provide, is progressing very slowly.

CANAL BOATS ACTS, 1884 and 1887.

There was no change in the register of canal boats during the year and the number of boats registered remains 285.

102 boats were inspected, 4 of which were found to be contravening the Regulations arising out of dilapidation, and want of cleanliness and painting.

There was accommodation for 343 persons in the boats inspected, but there were only 288 occupants. Of the 288 occupants, 135 were male adults, 72 female adults, 55 children of school age, and 26 children under school age.

The statistics and particulars of work done under this Act, are shown below :—

CANAL BOATS ACTS, 1887 and 1884.

STATISTICAL SUPPLEMENT to the (1929) Annual Report of the Chester Urban Sanitary Authority.

- Number of Boats added to Register in 1929.
- Number re-registered owing to Structural Alterations.
- Number re-registered owing to other reasons.
- 285 Total Number registered to 31st December, 1929.
- Total Number of Registrations Cancelled.
- 285 Actual Number of Boats on Register at 31st December, 1929.
- 102 Number of Boats inspected in 1929.
- 98 Number of Boats conforming to the Acts and Regulations.
- 4 Number of Boats Infringing the Acts and Regulations.
- Total Number for which the Cabins were registered—343.
- Total Number occupying the Cabins—288.

Details of Occupation—

Male Adults	135
Female Adults	72
Children of School Age	55
Children under School Age	26

— 288

Details showing Numbers Infringing in respect to—

No. of Cases met with.		No. of Cases remedied.
—	Registration	—
—	Notification of Change of Master	—
—	Absence of Certificate	—
—	Certificate not Identifying Owner with Boat ...	—
—	Marking	—
—	Overcrowding	—
—	Partition (Reg. 8, b. ii.)	—
—	Females over 12 Improperly Occupying	—
4	Cleanliness	4
4	Painting	4
—	Ventilation	—
7	Dilapidation	7
—	Removal of Bilge Water	—
—	Without Pump	—
—	Refusal of Admittance to Inspector	—
—	No proper Water Vessel	—
—	Without requisite Double Bulkheads	—
—	Non-notification of Infectious Disease	—
—	Number of Boats detained for Cleansing (not for I/D)—	—
15	Total Cases met with :	Total Cases Remedied 15

Number of Legal Proceedings taken

Number of printed Notice Forms issued

Number of Notices attended to

Number still corresponding about

HOUSING.

There were 339 houses built in the City during the year, 300 under schemes of the Local Authority and 39 by private enterprise.

Closing orders were issued in respect of 34 houses, one of which was subsequently determined on the house being made satisfactory, and 32 others were demolished so that the net gain is 274 houses.

The houses on which closing orders were issued were situated in

Pitt Street	1
Princess Court, Trafford Street	2
Davies Court, Newgate Street	2
Francis Court, Cuppin Street	4
Fluitt's Court, Cuppin Street	1
Northgate Terrace	4
Horton's Court, Goss Street	3
Boden's Court, Crane Street	4
St. Olave Street	4
Owen's Court, St. Olave Street	4
Jones' Court, Princess Street	2
Bumpers Lane	1
*Jones' Court, Thomas Street	1
Linenhall Street	1

34

*Closing order subsequently determined.

The Chief Rating Officer gives 9092 as the number of dwelling-houses in Chester of which approximately 5046 are of 10/- a week rent or less, 2213 between 10/- and 15/-, and 1833 over 15/- a week. It is houses of 10/- or less rent per week which are most urgently needed. No house of that rental has been built for some years back. The demolition of slum property is certain to become more active and will intensify the demand for the cheaper house. In trying to provide this, care must be taken not to sacrifice weather-proofness, air-space and durability. The Rent Restriction Act can hardly be justified much longer and its repeal would free houses for poorer tenants.

If there are 9092 inhabited houses in Chester and the population is as given by the Registrar General the concentration per house is 4.5 which does not indicate the presence of overcrowding. We know however that there is still considerable overcrowding and it will

probably be found that either the population or number of inhabited houses is wrongly stated. Overcrowding has been relieved in the last few years but is still very evident.

During the year, 146 houses were inspected under Section 3 of Housing Act of 1925. Of this number 28 were found to be satisfactory and the others were dealt with as required.

Thirty-four houses were closed by the Department during the year as being unfit for habitation. One of those houses was subsequently made fit and the closing order withdrawn. The remaining 33 will be demolished .

There were 10 notices served under Section 3 of the Act of 1925. Of these, one house was made fit for habitation by the owner, and one closed, as the owner did not consider it could be made habitable without reconstruction. The remaining eight were being dealt with at the end of the year by the Local Authority.

At the end of the year work was on hand on 13 houses and 7 were standing over for further consideration.

Demolition orders were made on 22 houses. Twenty of those have been demolished and two are outstanding.

Under the Public Health Acts, 1156 houses were inspected and of those, 43 were found satisfactory. Intimation notices were served in respect of 1061 houses and resulted in 1050 being made satisfactory by the end of the year, when 11 were outstanding. Fifty-two Statutory Notices were served under those Acts and all were complied with.

HOUSING CONDITIONS.

STATISTICS.—Year ended 31st December, 1929.

1. General.

(1) Estimated Population	40,920
(2) General Death-rate	14.5
(3) Death-rate from Tuberculosis	1.09
(4) Infant Mortality	77.7
(5) Number of dwelling-houses of all classes (1929) ...	9,092
(6) Number of working-class dwelling-houses	6,997
(7) Number of new working-class houses erected	300

I.—*Inspection.*

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	1302
---	------

(2) Number of dwelling-houses which were inspected and recorded under the Housing (Consolidated Regulations, 1925)	146
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	34
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation	1197

II.—*Remedy of Defects without service of Formal Notices.*

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their Officers	1117
---	------

III.—*Action under Statutory powers.*

A. Proceedings under Section 3 of the Housing Act, 1925 :—

(1) Number of dwelling-houses in respect of which notices were served requiring repair	10
(2) Number of dwelling-houses which were rendered fit—	
(a) by owners	1
(b) by Local Authority in default of owners	8
(3) Number of dwelling-houses in respect of which closing orders became operative in pursuance of declaration by owners of intention to close	1

B. Proceedings under Public Health Acts :—

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	52
(2) Number of dwelling-houses in which defects were remedied—	
(a) by owners	52
(b) by Local Authority in default of owners	0

C. Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925 :—

(1) Number of representations made with a view to the making of closing orders	34
(2) Number of dwelling-houses in respect of which closing orders were made	34
(3) Number of dwelling-houses in respect of which closing orders were determined, the dwelling-houses having been rendered fit	1
(4) Number of dwelling-houses in respect of which demolition orders were made ...	22
(5) Number of dwelling-houses demolished in pursuance of demolition orders	20

INSPECTION AND SUPERVISION OF FOOD.

(a) **Milk Supply—**

All farms and dairies within the City are regularly examined and kept in as clean and hygienic a condition as possible. The cattle undergo examination twice a year by the Veterinary Officer of the Local Authority and individual cattle examined as found necessary. A certain number of milks are examined bacteriologically every week with a view to detecting dirty milks and encouraging hygienic methods. One hundred and twenty-eight samples were so examined during the year. Twenty-four per cent. of the samples were found to be unsatisfactory from the point of view of a bacterial count, having 200,000 germs or more in one cubic centimetre. This is more than twice the number of unsatisfactory samples found in 1928. Another unsatisfactory point is the presence of bacillus coli in one cubic centimetre or less in 84.4 per cent. of the milks. This indicates manural contamination from unhygienic methods. For some years now every producer of an unsatisfactory milk has been written to, he has been given instructions how to produce clean milk, and he has been offered the help of the Cheshire School of Agriculture. He neither accepts the help or the advice, but continues to sell milk in a slovenly dirty manner. The distribution of milk is getting into the hands of a few concerns who pasteurise and bottle it. The producers will find an increasing limited market available as most will agree that pasteurised milk is better than dirty milk.

Fourteen samples were submitted for biological test for the presence of tubercle bacillus, but in no instance was such found.

BACTERIOLOGICAL EXAMINATIONS OF MILK, 1929.

30

1929. MONTH.	GERMS PER 1 C.C.							Number Letters sent.	BACILLUS COLI.		
	Under 50,000.	50,000 and under 100,000.	100,000 and under 200,000.	200,000 and under 500,000.	500,000 and under 1,000,000.	1,000,000 and over.	Total Examined.		Present in 1'0 c.c. or less.	Present in 1'0 c.c. absent in 0'1 c.c.	Absent in 1'0 c.c. and less.
January	12	2	6	6	...
February	12	...	2	5	5
March	11	...	4	5	2
April	12	...	3	4	5
May	12	2	4	5	3
June	16	7	11	3	2
July	12	6	11	1	...
August	12	5	8	1	3
September	17	7	14	3	...
October	4	1	1	3	...
November
December	8	1	4	4	...
Totals	61	23	13	29	2	...	128	31	68	40	20
Percentages	47.7%	17.9%	10.2%	22.6%	1.6%	...	...	24.2%	53.1%	31.3%	15.6%

CHEMICAL EXAMINATION OF MILK.

Forty-five samples of milk were examined chemically. Eight samples were reported to be not genuine, being deficient either in milk fat or solids not fat. Those cases were followed up and either through the results of examination of appeal to the cow samples, or for other reasons, no prosecutions were instituted. The average fat content of the 45 samples was 3.98 per cent. and of solids not fat 8.7 per cent. The following table gives the results of the examinations.

Date.	Sample No.	Fat.	Solids not Fat.	Date.	Sample No.	Fat.	Solids not Fat.
Jany. 21	1	3.66	9.20	June 25	52	4.04	8.72
	2	7.00	8.92		53	2.79	9.21
	3	3.60	8.90		54	6.80	8.54
	4	3.78	8.86		55	2.85	8.91
	5	3.65	8.50		56	3.16	8.90
	6	3.85	9.03		57	3.80	8.80
Feb. 28	13	5.38	8.36	July 2	370	3.25	8.75
	14	3.85	9.05		1267	2.90	9.02
	15	4.00	8.70	" 4	58	3.01	9.29
	16	3.71	8.97		59	3.13	9.13
	17	3.70	8.50	Sept. 17	70	3.98	8.82
	18	6.50	8.30		71	4.28	8.92
April 16	31	7.66	8.20		72	3.72	8.82
	32	6.46	8.26		73	3.83	8.81
	33	3.08	8.98		74	3.19	8.75
	34	3.37	8.77		75	3.87	8.85
	35	3.08	8.92	Nov. 18	99	3.81	8.95
	36	4.52	8.60		100	3.81	9.05
" 19	37	2.95	8.61		101	3.72	8.56
	38	3.89	8.67		102	4.11	9.05
June 3	39	3.25	8.91		103	3.78	8.90
	40	3.00	9.21		104	3.80	9.30
	41	3.33	9.11				

Average :—Fat = 3.98%. Solids not Fat = 8.7%.

MILK AND DAIRIES ORDER, 1926.

The work done under the above Order is detailed below:—

Registered Cow-keepers	15
Inspections of Cowsheds	83
Contraventions	5
Contraventions remedied	5
Total number of Registered Milk Sellers	114
Registered Dairies (including those attached to Cowsheds)	45

Registered Purveyors of Milk (not occupying dairies in the City)	69
Dairy Inspections (City)	98
Contraventions	2
Contraventions remedied	2
Nature of Contraventions in Dairies and Cowsheds—	
Need of Limewashing	1
Defective Yard Drains	2
Defective Yard Paving	3
Unsuitable premises	1

CHESTER CORPORATION ACT, 1929.

Section 175.

With the passing of this Act the registration of manufacturers, wholesale dealers and retailers of ice cream came into operation and towards the end of the year applications for registration were received from 75 persons. In each case the premises occupied by the applicants and the utensils used were inspected and where necessary alterations were recommended and carried out and advice given as to the sterilisation and treatment of the utensils used.

(b) **Meat, etc.**

The number of slaughterhouses is the same as last year, five registered, two licensed and the Public Abattoir—8 in all. No alterations have been made and they are maintained in as good a condition as their condition will allow. Some are objectionable owing both to dilapidations and position and ought to be closed.

It is very advisable that all killing of cattle should be concentrated in one building, as facilitating inspection and providing the best conditions for all stages of the work. The present public abattoir, although doing excellent work, does not give any means of expansion which may reasonably be expected. As the lease of the premises terminates in 1935 it is advisable that the Local Authority should consider its policy as regards future developments in this direction. Meat marking

continues to be carried out at the Public Abattoir and will spread as the public realise that it is a guarantee of careful inspection and soundness of meat.

There were 9 tons, 2cwt. 4lbs. of food condemned during the year.

In two instances meat was seized as being intended for food and in a diseased condition, but in only one case was the owner proceeded against. In this case, when the Public Health Committee had considered the circumstances, it was decided to take no action. In the other the circumstances were as follows:—The carcase of a calf was seized in a shippon where it had been slaughtered and dressed in preparation for sale. Proceedings were taken under Sections 116—119 of the Public Health Act, 1875, and also under the Meat Regulations, 1924, Sections 8 (2) and 9. The result was a fine of £5 under the Public Health Act and £1 under the Meat Regulations.

The number of ox and sheep livers condemned for the presence of fluke was very large. The unusual prevalence being due probably to the mild winter and succeeding wet summer of 1928 favouring their development.

With the exception of the two seizures mentioned all the rest of the diseased meat was voluntarily surrendered.

The number of animals slaughtered in the Public Slaughter-house was:—

Cattle	965
Calves	681
Sheep	8816
Pigs	495
<hr/>	
Total	10957

In the inspection of foods the following visits were made:—

Slaughter-houses	1040
Butchers Shops	318
Fishmongers Shops	247
Other Shops and Stores	233
<hr/>	
	1838

The following is a list of the condemnations with the reason for the action:—

ARTICLES CONDEMNED.				Number.	REASON FOR CONDEMNATION.
BEEF.					
Carcases and offal...	...	...	...	17	Generalised Tuberculosis
Portions of carcasses and organs	...	...	...	173	Localised Tuberculosis
"	"	"	...	166	Parasitic & other conditions
MUTTON AND LAMB.					
Carcases and offal	...	...	...	7	Febrile
"	"	...	...	1	Emaciation
"	"	...	...	1	Distomatosis
"	"	...	...	1	Suffocation
"	"	...	...	1	Septicæmia
"	"	...	...	1	Oedema
Portions of carcasses	...	...	...	2	Contusion
Organs	...	...	...	405	Parasitic conditions
PORK.					
Carcases and offal	...	...	...	12	Generalised Tuberculosis
"	"	...	...	4	Febrile
"	"	...	...	2	Jaundice
"	"	...	...	2	Emaciation
"	"	...	...	2	Urticaria
Portions of carcasses and organs	...	...	...	164	Localised Tuberculosis
"	"	"	...	19	Parastic & other conditions
VEAL.					
Carcase and offal	...	...	...	1	Dysentery
"	"	...	...	1	Septic Pneumonia
"	"	...	...	1	Congenital Tuberculosis
"	"	...	...	1	Febrile
IMPORTED MEAT.					
Chilled Beef (quarter)	...	...	...	1	Fatty degeneration
FISH.					
Cod (boxes of)	...	...	...	6	Decomposition
Cod Roes (lbs. of)	...	...	...	10	"
Halibut (lbs. of)	...	...	...	16	"
OTHER FOODSTUFFS.					
Liquid Eggs (tins of)	...	...	...	1	Decomposition
Frozen Eggs (tins of)	...	...	...	1	"
Apricots (cases of)...	...	...	...	7	"

The estimated weight of food stuffs condemned during the year 1929 is :—
9 tons, 2 qr., 4lbs.

Humane Slaughtering.—There was no contravention reported during the year. In outlying districts the old methods are still in use.

CONTAGIOUS DISEASES ANIMALS ACT.**TUBERCULOSIS (ANIMALS) ORDER, 1925.**

There were 52 cases dealt with under this Order during the year, of which four of the animals were slaughtered in the City.

In the remaining 48 cases, the owners were served with the necessary notices and were ordered to return their cattle to their farms. At the same time, copies of the notices served were forwarded to the County Authorities concerned, and also to the Minister of Agriculture and Fisheries. In several instances the County Authorities have prosecuted the owners of the cattle for failing to give notice of being in possession of a notifiable animal and penalties have been inflicted

No proceedings have been instituted in the City.

The action of the Inspectors in sending the cattle back to the farms, in lieu of dealing with them locally, appears to act as a deterrent, as owners of emaciated stock no doubt hesitate to bring into the cattle market emaciated animals if there is a risk of having them sent back.

Chester being a centre of a dairy district, there is naturally a number of aged and worn-out cows sent into the saleyards. These animals are a difficult class to deal with, as, although they are physically poor, many of them may be organically sound.

Of the four animals slaughtered within the City, they were all found to be suffering from Generalized Tuberculosis, and in the Order, 2 were classified as Tuberculous emaciation, and 2 Tuberculosis of the udder. Compensation to the extent of one-quarter of their value was paid in each case.

Fourteen samples of milk were submitted for examination for the presence of Tubercle Bacillus and it is certified there was no evidence of Tuberculosis in any of the samples.

These samples were submitted to the Chester Royal Infirmary for examination.

SALE OF FOOD AND DRUGS ACTS.

During the year the following articles of food were submitted to the Public Analyst for examination.

FOOD AND DRUGS (ADULTERATION) ACT, 1928.

Article.	No. not Genuine.	No. Genuine.	No. taken formally.	No. taken informally.	Totals.
Milk	8	37	42	3	45
Butter	9	9	...	9
Ice Cream	6	...	6	6
Sweets	5	...	5	5
Condensed Milk	4	...	4	4
Rice	4	...	4	4
Sausages	4	...	4	4
Apples	3	...	3	3
Jam	3	...	3	3
Lard	3	3	...	3
Packet Peas	3	...	3	3
Rum	2	1	3	...	3
White Pepper	3	...	3	3
Baking Powders	2	2	...	2
Cream	2	...	2	2
Glacé Cherries	2	2	...	2
Ground Ginger	2	2	...	2
Liquorice Powders	2	2	...	2
Malt Vinegar...	2	2	...	2
Margarine	2	2	...	2
Mincemeat	2	2	...	2
Port Wine	2	2	...	2
Whiskey	2	2	...	2
Potted Shrimps	1	...	1	1
Bay Rum	1	...	1	1
Brawn	1	...	1	1
Chicken, Ham and Tongue Paste...	...	1	...	1	1
Lobster Paste	1	...	1	1
Sultanas	1	1	...	1
Turkey and Tongue Paste	1	...	1	1
Meat Marking Ink	1	...	1	1
	10	113	80	43	123

Of the 123 samples examined, ten, or 8.1 per cent., were found to be not genuine. This is a larger percentage than in 1928, when it was 6.6. The increase is entirely due to a larger proportion of the milk samples being reported as "not genuine." Of the 45 samples of milk examined, 8 or 17.7 per cent., were found to be deficient in fat or in solids not fat. In none of the cases was it thought necessary to prosecute. After consideration of all the circumstances of each case warning letters were sent to the producers or vendors. All the samples were found free from the gross pollution of sediment and colouring matter, and preservatives were absent.

Two samples of rum were found to contain an excess of water equal to 4.6 and 13.9 per cent. Proceedings were taken in both instances with the result that in the case of the smaller sophistication the case was dismissed on payment of costs and in the other a fine of £3 with costs of £1 4s. 8d. was imposed.

The fat content of samples of ice-cream examined varied from 4.5 to 10.6. Fat is an article in which the diet of the young is generally deficient and as ice-cream is a popular comestible it is important that a standard of fat content should be fixed. Experience shows that 10 per cent. of milk fat would be quite a reasonable standard to fix.

Sulphur dioxide was used as a preservative in two samples of sausages and two of jam, in all instances within the allowed limits.

The following table gives particulars of the samples found "not genuine," and the action taken in each case :—

No. of Sample.	Name of Article.	Result of Analysis.	Result of Legal Proceedings or action taken by the Public Health Committee.
13	Milk ..	Deficient in 1.7 % non-fatty solids	Small particles of ice were observed to be present in the milk at the time of purchase. The Public Analyst stated the small deficiency in the non-fatty solids may have been due to the keenness of the frost. No further action was taken.
18	Milk ..	Deficient in 2.4 % non-fatty solids	This sample was purchased on the same day as No. 13, and was found to be in a similar condition. No further action was taken.
31	Milk ..	Contained 3.5 % extraneous water	A letter was sent to the vendor calling attention to the result of the analysis.
32	Milk ..	Contained 2.8 % extraneous water	
37	Milk ..	Deficient in 1.7 % of fat ..	This sample was taken in course of delivery to the vendor of samples Nos. 31 and 32. No further action was taken.
53	Milk ..	Deficient in 7.0 % of fat ..	A sample of milk, No. 1267, taken in course of delivery to the vendor of sample No. 53, was found to be 3.3 % deficient in fat. Two "appeal to cow" samples, Nos. 58 and 59, were then obtained. These samples, although up to standard, were of very poor quality. Warning letters were sent to the retailer and producer.
55	Milk ..	Deficient in 5.0 % of fat ..	A warning letter was sent to the vendor of this sample.
1267	Milk ..	Deficient in 3.3 % of fat ..	See sample No. 53.
117	Rum ..	Contained 4.6 % excess of water	Proceedings instituted. Case dismissed but defendant was ordered to pay costs £1 9s. 6d.
121	Rum ..	Contained 13.9 % excess of water	Proceedings instituted. Defendant fined £3, and £1 4s. 8d. special costs.

NOTIFIABLE DISEASES DURING THE YEAR 1929.

DISEASE.	Under 1 year.	1 and under 2.	2 and under 3.	3 and under 4.	4 and under 5.	5 and under 10.	10 and under 15.	15 and under 20.	20 and under 35.	35 and under 45.	45 and under 65.	65 and over.	Total cases.	Cases admitted to Hospital.
Diphtheria ...	0	0	2	4	4	22	11	2	0	1	0	0	46	46
Scarlet Fever ...	2	2	12	15	26	244	92	24	14	1	1	0	433	180
Erysipelas ...	1	0	0	0	0	0	1	1	4	3	6	5	21	3
Puerperal Fever ...	0	0	0	0	0	0	0	0	7	3	0	0	10	10
Encephalitis Lethargica ...	0	0	0	0	0	0	0	0	0	1	1	0	2	0
Typhoid... ..	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Para Typhoid "B" ...	0	0	0	0	1	0	0	0	0	0	0	0	1	1
Small Pox ...	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ophthalmia Neonatorum ...	11	0	0	0	0	0	0	0	0	0	0	0	11	5
Puerperal Pyrexia ...	0	0	0	0	0	0	0	1	8	1	0	0	10	3
Chicken Pox ...	4	5	12	12	16	164	19	1	2	0	0	0	235	0
Measles ...	2	6	9	12	10	49	8	2	6	0	1	0	105	2
Whooping Cough ...	26	30	24	35	37	159	5	0	2	1	2	0	321	22
Pneumonia ...	16	18	9	5	6	13	3	5	10	7	19	5	116	63
Cerebro Spinal Fever...	1	0	0	0	0	0	0	0	0	0	0	0	1	1

TUBERCULOSIS, 1929.

Particulars of new cases of tuberculosis and mortality during 1929 are given below :—

Age Periods.	NEW CASES.				DEATHS.			
	Pulmonary		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
	Males	Females	Males	Females	Males	Females	Males	Females
Under 1 ...	0	0	1	0	1	0	0	0
1 to 5 ...	1	1	8	0	1	2	4	3
5 to 10 ...	0	2	3	3	0	0	1	0
10 to 15 ...	0	0	0	0	0	1	0	0
15 to 20 ...	1	3	2	0	0	1	0	0
20 to 25 ...	2	4	1	1	2	3	0	0
25 to 35 ...	7	8	0	0	1	3	0	0
35 to 45 ...	9	7	0	0	4	3	0	0
45 to 55 ...	9	1	0	0	7	1	0	0
55 to 65 ...	4	0	0	1	3	0	1	0
65 and upwards	3	0	0	0	2	1	0	0
Totals ...	36	26	15	5	21	15	6	3
1929	62		20		36		9	

PUBLIC HEALTH (PREVENTION OF TUBERCULOSIS)
REGULATIONS, 1925.

There has been no occasion to act on this regulation.

PUBLIC HEALTH ACT, 1925, SECTION 62.

So far there has been no occasion to put this Section into force.

I append the report of the City Analyst for the year.

To the Chairman and Members of the Public Health Committee.

Gentlemen,

Sale of Food and Drugs Act.

I have the honour to inform you that during the past year I received one hundred and twenty three samples for analysis, as follows :

Milks	...	...	...	...	...	43
Appeal to cow samples	...	...	...	...	...	2
Butters	...	...	...	...	...	9
Lards	...	...	...	...	...	3
Apples	...	...	...	...	...	3
Peas	...	...	...	...	...	3
Bay Rum	...	...	...	...	...	1
Creams	...	...	...	...	...	2
Potted Meats	...	...	...	...	...	2
Brawn	...	...	...	...	...	1
Marking Ink for Meat	...	...	...	...	...	1
Sweets	...	...	...	...	...	5
Sausages	...	...	...	...	...	4
Ice Creams	...	...	...	...	...	6
Condensed Milks	...	...	...	...	...	4
Peppers	...	...	...	...	...	3
Jams	...	...	...	...	...	3
Potted Shrimps	...	...	...	...	...	1
Lobster Paste	...	...	...	...	...	1
Margarines	...	...	...	...	...	2
Rices	...	...	...	...	...	4
Ground Gingers	...	...	...	...	...	2
Mincemeats	...	...	...	...	...	2
Glaze Cherries	...	...	...	...	...	2
Sultanas	...	...	...	...	...	1

Liquorice Powders	...	...	...	...	2
Malt Vinegars	...	...	...	..	2
Baking Powders	...	...	...	...	2
Whiskys	...	...	...	...	2
Rums	...	...	...	...	3
Port Wines	...	...	...	...	2

 123

Eight samples of milk were found to be below the Standard, two of these samples were deficient 1.7 per cent. and 2.4 per cent. in non-fatty solids, as these samples were taken during severe frost when particles of ice were in the milk, I was of opinion that the deficiency was due to this cause alone.

Two samples were found to contain 3.5 per cent. and 2.8 per cent. of added water, a sample taken in course of delivery to compare with these milks was 1.7 per cent. deficient in Fat.

One milk sample was 5 per cent. deficient in Fat, a sample taken in course of delivery for comparison was genuine.

A milk sample was 7 per cent. deficient in Fat. A sample in course of delivery to compare was 3.3 per cent. deficient in Fat. Two appeal to cow samples for comparison were both genuine.

All the milk samples analysed during the year were tested for preservatives, dirty sediment and artificial colouring matters, and all the samples were found to be free from any such adulteration.

Two samples of Rum were found to be below the Statutory limit of 35 degrees under proof, in one case there was 4.6 per cent. excess of water, and in the other, 13.9 per cent. excess of water.

Butters.—All the Butter samples were free from preservatives and from foreign fat.

The samples of apples were free from Arsenic which is sometimes present from the use of Arsenical compounds for spraying the fruit.

All the Ice Cream samples were returned as Genuine, the percentage of Fat varied from 4.55 per cent. to 10.6 per cent. ; at present there is no standard for Ice Cream.

Sulphur Dioxide was used as preservative in three samples of sweets but the amount (32 parts per million) was well within that allowed by the Preservatives in Food Regulations.

Sulphur Dioxide was also found in two samples of Sausages, but here also the quantities (64 and 96 parts per million) were within those allowed by the Regulations.

Sulphur Dioxide was used as preservative in two samples of Jam, the amounts being 30 and 38 parts per million, the Regulations allow up to 40 parts per million, but as fifty per cent. of the samples of Jam I have examined are quite free from preservatives it appears to be quite unnecessary to allow any preservative to be used in this article of food.

Preservatives were absent in the other samples, and all the samples were free from prohibited colouring matters.

Yours faithfully,

W. F. LOWE, A.R.S.M., F.I.C.,
City Analyst.

ISOLATION HOSPITAL.

Four hundred and one patients were admitted to the Isolation Hospital during the year, 178 more than in the previous year.

The following table gives details of the admissions:—

	Tuber- culous Disease.	Scarlet Fever.	Diph- theria.	Typhoid and Para Typhoid Fever.	Puer- peral Fever and Pyrexia.	Whoop- ing Cough.	Measles	Small- pox	Other Con- ditions.	Total.
Chester ...	40	183	43	1	4	22	2	...	21	316
County ...	7	...	...	...	...	...	...	...	...	7
Chester R.D.C.	...	21	17	...	2	...	...	...	...	40
Tarvin and Malpas	...	23	4	...	...	...	...	...	...	27
Hoole ...	...	6	3	1	...	...	...	...	...	10
Other Authorities	...	...	1	...	...	...	...	...	...	1
Total ...	47	233	68	2	6	22	2	...	21	401

There was a short, sharp epidemic of scarlet fever in the second half of the year, which, although of a very mild nature, gave rise to much trouble through multiple infections. The combination of scarlet fever and chicken-pox was fairly common and patients after being in hospital for a few days developed measles and rubella and in four cases of notified scarlet fever the throat showed the presence of the diphtheria bacillus. One case of scarlet fever was admitted with acute appendicitis. We had one return case of scarlet fever. The Dick Test was used freely in helping in the diagnosis of scarlet fever. Diphtheria was of a severe type and very many of the cases were admitted late, death taking place in some cases only a few hours after admission. Three cases were hæmorrhagic and severe cases of mixed infection with bull necks and very offensive throats were very common.

There were in all 31 deaths, eighteen of those belonging to the City and 13 to outside districts. The causes of death were as follows : Tuberculosis, 9; Diphtheria, 17; pneumonia, 1; whooping cough and pneumonia, 3; puerperal fever, 1.

CITY & COUNTY OF THE CITY OF CHESTER.—Causes of, and Ages at Death during the Year 1929.

44

CAUSES OF DEATH.		NET DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.									
		At all Ages.	Under 1 year.	1 and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and under 65.	65 and under 75.	75 and upwards.
1 Enteric Fever	...	...	...	...	...	...	...	...	...	...	...
2 Small Pox	...	...	...	...	...	...	...	...	...	...	...
3 Measles	...	...	...	...	...	...	...	...	...	...	...
4 Scarlet Fever	...	1	...	...	...	1	...	...	...	...	...
5 Whooping Cough	...	13	8	4	...	1	...	...	...	...	...
6 Diphtheria	...	6	...	...	2	4	...	...	...	...	...
7 Influenza	...	16	...	...	1	...	...	1	6	5	3
8 Encephalitis Lethargica	...	2	...	...	...	...	...	1	1	...	...
9 Meningococcal Meningitis	...	1	1	...	...	...	...	...	...	...	...
10 Tuberculosis of Respiratory System	...	36	...	2	1	1	6	11	12	3	...
11 Other Tuberculous Disease	...	9	1	3	3	1	...	...	1	...	...
12 Cancer, Malignant Disease	...	74	...	...	2	...	...	2	38	24	8
13 Rheumatic Fever	...	...	...	...	...	...	...	...	...	...	...
14 Diabetes	...	6	...	...	...	...	...	...	...	...	...
15 Cerebral Haemorrhage, etc.	...	27	...	...	...	...	...	1	3	...	2
16 Heart Disease	...	119	...	...	...	...	...	2	9	8	8
17 Arterio-sclerosis	...	51	...	...	...	3	...	3	41	39	33
18 Bronchitis	...	29	1	...	...	...	...	...	8	21	22
19 Pneumonia (all forms)	...	60	9	...	3	...	...	...	6	9	13
20 Other Respiratory Diseases...	...	7	...	9	3	3	2	5	19	4	6
21 Ulcer of Stomach or Duodenum	...	3	...	...	...	...	...	...	5	2	...
22 Diarrhoea, etc.	...	2	2	...	...	...	...	...	2	1	...
23 Appendicitis and Typhlitis	...	6	...	...	...	...	...	...	...	...	...
24 Cirrhosis of Liver	...	2	...	...	...	...	1	2	2	1	...
25 Acute and Chronic Nephritis	...	18	...	...	...	...	...	1	9	4	4
26 Puerperal Sepsis	...	1	...	...	...	...	...	1	...	...	...
27 Other Accidents & Diseases of Pregnancy & Parturition	...	3	...	...	...	...	...	3	...	...	...
28 Congenital Debility and Malformation, including Premature Birth	...	24	24	...	...	...	...	...	...	...	...
29 Suicide	...	11	...	...	...	...	...	...	...	...	...
30 Other Deaths from Violence	...	14	...	1	2	...	2	1	7	1	...
31 Other Defined Diseases	...	85	9	2	5	1	2	9	4	14	2
32 Causes ill-defined or unknown	...	...	...	...	...	...	...	...	22	...	21
Totals	...	626	55	21	19	15	15	45	197	137	122

Infant Mortality during the Year 1929.

45

CAUSES OF DEATH												
All Causes {	Certified.	Uncertified.	Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total Deaths 4 Weeks	4 Weeks and under 3 Months	3 Months and under 6 Months	6 Months and under 9 Months	9 Months and under 12 Months	Total Deaths under 1 Year
		
{	Small-pox ..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox ..	..	..	..	..	..	..	..	..	..	..	..
	Measles ..	..	..	..	..	..	..	..	..	..	..	..
	Scarlet Fever ..	..	..	..	..	..	..	..	..	..	..	..
	Whooping Cough ..	..	..	..	1	1	1	3	1	3	..	8
	Diphtheria and Croup ..	..	..	..	..	..	..	..	..	..	..	..
	Erysipelas ..	..	..	..	..	..	..	..	..	..	..	..
	Tuberculous Meningitis ..	..	..	..	..	..	..	..	..	..	..	..
	Abdominal Tuberculosis (b) ..	..	..	..	..	..	..	..	..	..	..	..
	Other Tuberculous Diseases ..	..	..	..	..	..	..	..	..	..	..	..
	Meningitis (not Tuberculous) ..	..	..	..	1	1	1	1	..	..	..	1
	Convulsions ..	..	..	..	3	4	..	..	..	..	1	5
	Laryngitis ..	..	..	..	..	..	..	..	..	..	..	..
	Bronchitis ..	..	..	..	..	..	..	..	..	..	..	1
	Pneumonia (all forms) ..	..	..	2	..	2	..	1	1	4	1	9
	Diarrhoea ..	..	..	..	..	..	..	..	..	..	..	..
	Enteritis ..	..	..	..	..	..	..	..	..	..	..	1
	Gastritis ..	..	..	..	..	..	..	..	..	..	..	..
	Syphilis ..	..	..	..	..	..	..	..	..	..	..	..
	Rickets ..	..	..	..	..	..	..	..	..	..	..	..
Suffocation, Overlying injury at Birth ..	..	..	..	..	..	..	..	..	..	..	..
Atelectasis ..	..	..	..	..	..	..	..	..	..	..	..
{	Congenital Malformations (c) ..	..	4	..	..	..	4	..	..	..	..	4
	Premature Births ..	..	1	..	..	..	1	2	..	..	..	3
	Atrophy, Debility and Marasmus ..	..	7	2	..	..	9	1	..	..	..	10
	Other Causes ..	..	1	..	..	..	3	4	3	1	..	11
Totals ..			14	3	4	5	26	11	6	9	3	55

Nett Births in the year, legitimate, 665; illegitimate, 42.

Nett Deaths in the year of legitimate infants, 52; illegitimate infants, 3

Vital Statistics of Whole District during 1929 and previous years.

YEAR	Population estimated to Middle of each Year	BIRTHS			TOTAL DEATHS REGISTERED IN THE DISTRICT		TRANSFERABLE DEATHS		NETT DEATHS BELONGING TO THE DISTRICT			
		Un- corrected Number	Nett		Number 2	Rate	Of Non- residents registered in the District	Of Resi- dents not registered in the District	Under 1 Year of Age		At all Ages	
			Number †	Rate					Number †	Rate per 1000 Nett Births	Number †	Rate
1	2	3	4	5	6	7	8	9	10	11	12	13
1920	42,571 (B) 42,388 (D)	1072	1091	25·62	543	12·81	94	70	75	68·7	519	12·24
1921	41,407	882	895	21·63	595	14·36	91	81	79	88·26	585	14·12
1922	41,451	897	865	20·86	608	14·66	113	77	68	78·6	572	13·79
1923	41,610	829	803	19·22	600	14·41	132	78	69	86·2	546	13·12
1924	41,932	835	816	19·46	578	13·78	116	115	73	89·46	577	13·76
1925	41,922	869	851	20·30	593	14·12	155	128	61	71·6	566	13·5
1926	41,913	873	836	19·94	569	13·31	136	113	67	80·0	546	13·0
1927	42,200	764	697	16·51	552	13·08	139	113	49	70·30	526	12·46
1928	40,982	791	696	16·9	554	13·51	190	103	41	58·9	467	10·8
1929	40,920	805	707	17·25	689	16·83	211	148	55	77·7	626	14·5

Area of District in acres (land and inland water), 2,862.

No. of inhabited houses, 9,092.

Average No. of persons per house, 4·5.

* Total deaths occurring in Chester whether of residents or non-residents.

† Births and deaths corrected for those births and deaths properly belonging to Chester, but occurring outside the District, or occurring in the District but properly belong outside.

Administration of the Factory and Workshop Acts, 1901 & 1907

IN CONNECTION WITH

Factories, Workshops, Laundries, Workplaces, and Homework.

1. INSPECTION.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF
NUISANCES.

Premises. (1)	Number of		
	Inspections (2)	Written Notices (3)	Prosecutions (4)
Factories (including Factory Laundries) ...	187	1	—
Workshops (including Workshop Laundries) ...	119	4	—
Workplaces (other than Outworkers' premises)	—	—	—
Total	306	5	—

2. DEFECTS FOUND.

Particulars. (1)	No. of Defects.			Number of Prosecu- tions. (5)
	Found (2)	Remed'd (3)	Referred to H.M. Inspect'r (4)	
Nuisances under the Public Health Acts—				
Want of Cleanliness	3	3	—	—
Want of Ventilation	2	2	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	1	1	—	—
Other Nuisances	5	5	—	—
Sanitary accommodation { insufficient	1	1	—	—
{ unsuitable or defective	2	2	—	—
{ not separate for sexes	1	1	—	—
Offences under the Factory & Workshop Act :				
Other Offences	—	—	—	—
Total	15	15	Nil.	Nil

OUTWORK IN UNWHOLESOME PREMISES.

SECTION 108.

Nature of Work. (1)	Instances. (2)	Notices Served. (3)	Prosecutions (4)
Wearing Apparel.—			
Making, &c.	Nil	Nil	Nil
Cleaning and Washing	"	"	"

